

CLAIMS

What is claimed is:

1. A mobile electronic apparatus functioning as an image medium reproducer, comprising:
 - a mobile apparatus body; and
 - a mobile apparatus stand detachably connected with the mobile apparatus body,wherein, while the mobile apparatus body is connected to the mobile apparatus stand,
 - the mobile apparatus body performs auralization and visualization of at least one A/V (Audio/Video) signal based on at least one input A/V signal and one input body control signal output from the mobile apparatus stand,
 - the mobile apparatus body outputs at least one stand control signal controlling an operation of the mobile apparatus stand, and
 - when the mobile apparatus body is disconnected from the mobile apparatus stand, the mobile apparatus body operates as an independent mobile electronic apparatus, andwherein, while the mobile apparatus stand is connected to the mobile apparatus body,
 - the mobile apparatus stand outputs both the A/V signal and the body control signal to the mobile apparatus body based on the input stand control signal output from the mobile apparatus body, wherein the A/V signal is reproduced from an A/V storage medium, and
 - the body control signal controls an operation of the mobile apparatus body.

2. The mobile electronic apparatus as claimed in claim 1, wherein the mobile apparatus stand comprises:

an A/V storage medium reproduction unit reproducing and outputting the A/V signal from the A/V storage medium based on the input stand control signal from the mobile apparatus body and outputting the body control signal controlling the operation of the mobile apparatus body; and

a body interface unit, when the mobile apparatus stand is connected to the mobile apparatus body,

receiving both the A/V signal output from the A/V storage medium reproduction unit and the body control signal controlling the mobile apparatus body, and outputting the received A/V signal and the received body control signal to the mobile apparatus body, and

interconnecting signals input/output between the mobile apparatus body and the A/V storage medium reproduction unit by receiving the input stand control signal from the mobile apparatus body and outputting the received stand control signal to the A/V storage medium reproduction unit.

3. The mobile electronic apparatus as claimed in claim 2, wherein the A/V storage medium reproduction unit comprises:

a disc reproducer reproducing and outputting the A/V signal from the A/V storage medium;

an A/V decoder receiving and decoding the A/V signal output from the disc reproducer and outputting the decoded analog A/V signal to the body interface unit;

an A/V key input section applying at least one key input signal;

an A/V memory temporarily storing and outputting the A/V signal; and

an A/V controller controlling operations of the disc reproducer, the A/V decoder and the A/V memory based on at least one of the key input signal applied from the A/V key input section and the input stand control signal from the mobile apparatus body, and outputting the body control signal to control the operation of the mobile apparatus body to the body interface unit.

4. The mobile electronic apparatus as claimed in claim 3, wherein the body interface unit comprises:

- an A/D converter performing A/D conversion of the input decoded analog A/V signal output from the A/V decoder into a digital A/V signal based on a control signal input from the A/V controller, and outputting the converted digital A/V signal; and

- an A/V connector, when the mobile apparatus stand is connected with the mobile apparatus body,

- receiving the digital A/V signal output from the A/D converter to output the received digital A/V signal to the mobile apparatus body,

- receiving the body control signal output from the A/V storage medium reproduction unit to output the received body control signal to the mobile apparatus body,

- receiving the input stand control signal from the mobile apparatus body to output the received stand control signal to the A/V storage medium reproduction unit, and

- connecting signals input/output between the mobile apparatus body and the A/V storage medium reproduction unit.

5. The mobile electronic apparatus as claimed in claim 1, wherein the mobile apparatus body comprises:

- a stand interface unit sensing whether connected with the mobile apparatus stand, outputting the sensed connection signal, and interconnecting the input A/V signal and the input body control signal from the mobile apparatus stand and the stand control signal output to the mobile apparatus stand; and

- a mobile unit performing auralization and visualization of the input A/V signal based on the sensed connection signal and the input body control signal from the stand interface unit, and outputting the stand control signal controlling the mobile apparatus stand.

6. The mobile electronic apparatus as claimed in claim 5, wherein the stand interface unit comprises:

- a stand connection sensor generating the sensed connection signal; and

- a mobile connector connecting signals input/output between the mobile apparatus stand and the mobile unit, when the mobile apparatus body is connected with the mobile apparatus stand.

7. The mobile electronic apparatus as claimed in claim 5, wherein the mobile unit comprises:

- a mobile key input section applying at least one key input signal;
- a mobile controller controlling operations of components constituting the mobile unit based on at least one of the sensed connection signal, the input body control signal from the stand interface unit, and the key input signal applied from the mobile key input section, and outputting the stand control signal controlling the operation of the mobile apparatus stand;
- a mobile memory uploading internally supplied multimedia data, various application programs, and an application program reproducing A/V signals, to the mobile controller based on a control signal from the mobile controller;
- a signal multiplexer alternatively switching between the input A/V signal output from the stand interface unit and the multimedia data output from the mobile controller based on a reproduction control signal output from the mobile controller, and outputting the switched data signals;
- a display driver outputting at least one display driving signal representing at least one image signal based on both the data signals from the signal multiplexer and a display control signal output from the mobile controller;
- a displayer representing the image signal based on the display driving signal output from the display driver;
- an audio controller outputting at least one audio signal for auralizing an audio signal based on both the data signals from the signal multiplexer and an audio control signal output from the mobile controller; and
- a speaker auralizing the audio signal output from the audio controller.

8. The mobile electronic apparatus as claimed in claim 7, wherein the mobile controller applies the key input signal to the mobile apparatus stand via the stand interface unit of the mobile apparatus body, when the mobile apparatus body is connected with the mobile apparatus stand according to the sensed connection signal, and allows the mobile apparatus body and the mobile apparatus stand to be operated based on the key input signal applied from the mobile key input section of the mobile apparatus body.

9. The mobile electronic apparatus as claimed in claim 7, wherein the mobile controller controls an operation mode of each component constituting the mobile apparatus body into an activation mode based on the input sensed connection signal from the stand interface unit, when the mobile apparatus body is connected with the mobile apparatus stand and while the mobile apparatus body is in a sleep mode.

10. A mobile electronic apparatus as claimed in claim 1, wherein the mobile apparatus body and the mobile apparatus stand comprise respective Universal asynchronous receiver/transmitter communication ports, and perform mutual input/output of the stand control signal and the body control signal, respectively, through the respective UART communication ports.

11. The mobile electronic apparatus as claimed in claim 1, wherein the A/V storage medium is a DVD (Digital Video Disc).

12. A method of reproducing an image storage medium through a mobile electronic apparatus, the mobile electronic apparatus having a detachable mobile apparatus stand, the method comprising:

activating an operation of the mobile electronic apparatus when the mobile electronic apparatus is connected to the mobile apparatus stand;

when at least one reproduction key signal is input, reproducing at least one A/V (Audio/Video) signal from an A/V storage medium in communication with the mobile apparatus stand and outputting the reproduced A/V signal to the mobile electronic apparatus; and

performing auralization and visualization of the input reproduced A/V signal from the mobile apparatus stand at the mobile electronic apparatus.

13. The reproduction method as claimed in claim 12, wherein the mobile electronic apparatus alternatively reproduces the input reproduced A/V signal from the mobile apparatus stand and internally supplied multimedia data.

14. The reproduction method as claimed in claim 12, wherein the mobile apparatus stand operates based on at least one key input signal applied from the mobile electronic apparatus and at least one key input signal applied from the mobile apparatus stand while the mobile apparatus stand is connected with the mobile electronic apparatus.

15. The reproduction method as claimed in claim 12, wherein the mobile apparatus stand and the mobile electronic apparatus perform mutual inputting/outputting of control signals controlling mutual operations through respective Universal asynchronous receiver/transmitter (UART) communication ports.

16. An apparatus, comprising:
a mobile electronic apparatus comprising a data communication interface, a display, and a controller controlling moving multimedia data receipt via the data communication interface and driving the display to display the moving multimedia data; and
a mobile apparatus stand detachably connectable with the mobile electronic apparatus and comprising a data communication interface, a moving multimedia data storage reproducer, and a controller controlling a digital reproduction of the moving multimedia data and transmission of the digital moving multimedia data to the mobile electronic apparatus for display via the respective data communication interfaces, in response to an input reproduction command at the mobile electronic apparatus and/or at the mobile apparatus stand.

17. A mobile electronic apparatus, comprising:
a data communication interface;
a display; and
a controller controlling external digital video disc (DVD) data communication receipt via the data communication interface and driving the display to display the DVD data.

18. The apparatus of claim 17, further comprising an A/V signal multiplexer controlled by the controller to switch between the externally supplied DVD data and internally supplied multimedia data.